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DEPARTMENT OF NATURAL RESOURCES  
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October 20, 1992

TO: Minerals File

FROM: Tony Gallegos, Reclamation Engineer *dag*

RE: Site Inspection, Barrick Mercur Gold Mines, Inc., Mercur Mine, M/045/017,  
Tooele County, Utah

Date of Inspection: October 8, 1992

Time of Inspection: 0900 - 1300

Conditions: Sunny, fair

Participants: Dave Beatty, Roger Collard, Barrick Mercur; Tony Gallegos, and  
Wayne Hedberg, DOGM

Purpose of Inspection: To observe hydroseeding of the regraded and topsoiled Sunrise  
Wasterock Dump.

The Sunrise dump was recently regraded to a 2.5:1 slope and covered with approximately six inches of topsoil. The finished dump configuration consists of a slope, approximately 800 feet in length, with surface runoff interception trench<sup>es</sup> along the contour of the slope every 200 vertical feet. Barrick has contracted with WRR Industries, Inc. to do the reseedling of the dump. The length and steepness of the dump slope along with the method of seeding, make this project a unique opportunity to assess the possible application of these same techniques to other waste dumps. Vehicle access to the dump will be eliminated in the near future by the advancement of the face of the open pit. After arriving at the site we proceeded directly to the Sunrise Dump.

WRR ran a hose down from their truck at the top of the dump and proceeded to seed the slope from the bottom up. A 3 inch hose was extended from their hydroseeder truck for approximately 400 feet down the slope. This hose was then connected to several lengths of 2 inch hose which then connected to a 1 1/2 inch hose which ended in a nozzle. Due to the great elevation difference they did not need to pump the material under pressure, but only start the material down the line and then allow gravity to do the work. The surface of the slope was staked out into 50 ft square sections in order to serve as a reference for the person actually spraying the seed and to achieve the desired application rate of materials per

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acre. Most of the topsoil was loose and did not have a crust. The surface had a roughness equivalent to the depth of the cleats on the dozer tracks. The particle size of the original dump material was ROM which includes everything from boulders to pebble size, although the regrading work had the effect of reducing the size of material on the dump surface.

We observed the hydroseeding of approximately 2-3 acres of the 25 acre dump surface. The hydroseeder hose had a reach of approximately 50 to 75 feet on the lower end of the dump. The impact of the spray did not have a drastic erosional affect on the topsoiled surface. The line ruptured several times during our observation. These ruptures were due to clogging of the hydroseed mixture and/or failure at the hose couplings. Initially, the bottom section of the 1 1/2 inch hose split, possible due to the extreme pressure and/or the age and condition of the hose itself.

The specific details of this hydroseeding were as follows: the average seed rate was 46 lbs/acre, the mulch rate was 800 - 1,000 lbs/acre, the fertilizer rate was 100 lbs/acre. The mulch rate was increased for the second "batch" of hydroseeded based on the operators judgement of the performance of the equipment during the first batch of hydroseeding. A copy of the seed mix and the percentage breakdown is attached. The mulch used was Silva Fiber brand mulch, made of 100% natural wood. The fertilizer used was a 16-16-8 phosphate fertilizer. The ingredients were mixed in the hydroseed tank by an agitator. One tankful of hydroseed mix was applied to approximately one acre. It was believed that a small amount of tackifier was included in the mix, although the specific type and amount are unknown at this time.

WRR planned to seed the 2:1 section, the flat sections and perform the touch up work using the truck mounted hydroseeding turret. We did not observe any hydroseeding from the truck.

Overall, this method of hydroseeding appeared feasible on this length of slope and at this angle. Using this method on a steeper slope does not seem feasible because it would be very difficult for workers to stand and be able to maneuver a filled hose of this length. Using this technique on a longer slope of the same angle may be difficult due to the pressures created in the hydroseeding hose. The size or coarseness of the dump material will also be a factor in limiting the physical practicality of maneuvering on a slope with a filled hydroseed hose.

jb  
Attachment  
cc: Dave Beatty, Barrick

Granite Seed Company 1697 W. 2100 N.  
Lehi, UT 84043

BARRICK  
MERCUR  
P-8-12

MIX #: 6883

\*\* CUSTOM RECLAMATION SEED MIX \* CUST. P.O. NO: 220482 \*\*

% PURE		GERM + HARD	ORIGIN
1.41 MOUNTAIN BIG SAGEBRUSH	VNS	89.00 + 0.00 -	UT
2.70 PALMER PENSTEMON	VNS	93.00 + 0.00 -	UT
4.45 INDIAN RICEGRASS	NEZPAR	94.00 + 0.00 -	WA
4.64 ALFALFA	LADAK	53.00 + 37.00 -	SD
4.80 CICER MILKVETCH	VNS	18.00 + 69.00 -	WA
6.04 LEWIS BLUE FLAX	APPAR	90.00 + 0.00 -	WA
7.11 BASIN WILD RYE	MAGNAR	C 94.00 + 0.00 -	MT
9.61 RUSSIAN WILD RYE	VINALL	87.00 + 0.00 -	CN
11.32 SLENDER WHEATGRASS	REVENUE	96.00 + 0.00 -	CO
12.78 SMOOTH BROMEGRASS	LINCOLN	85.00 + 0.00 -	KS
13.06 THICKSPIKE WHEATGRASS	VNS	96.00 + 0.00 -	MT
13.48 WESTERN WHEATGRASS	VNS	93.00 + 0.00 -	MT

0.12 Other Crop  
8.38 Inert Matter  
0.10 Weed Seed  
NET WEIGHT: 50.00 LBS. BULK  
41.79 LBS. PLS

Date Tested: 02/19/92  
Restricted Weed: None  
% Hard Seed: 5.12

GUARANTEE: Granite Seed guarantees its seed to be of promised quality and true to name as specified. Should seed prove to be other than labeled, liability shall be limited to replacement or refund of purchase price.